

dence of the presence of the man of the period, a stone axe artistically made and doubtless used for purposes of battle. When or how it was buried is as much a mystery as is the history of its maker. Whether it was dropped from a canoe into the accumulating debris, or hurled from the land at a passing enemy, is a problem which cannot be solved; but that it had lain for unnumbered centuries in the sepulchre from which it was exhumed, there are abundant reasons to believe.

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NOVEMBER 20.

The President, Dr. RUSCHENBERGER, in the chair.

Thirty-six members present.

*Correction of "Notes on American Cretaceous Fossils."*—The following note, dated Porto Plata, San Domingo, Oct. 15, 1877, was received from Mr. WM. M. GABB:—

"In my paper on cretaceous fossils in the Proceedings for 1876, of which I have just received a copy, I find that, by some unaccountable mistake the genus *Volutifusus*, Conrad, is placed in the sub-family *Voluntinæ*, after *Rostellites* (p. 290), where it does not belong, as well as in the *Scaphellinæ*, where it should be (p. 291), and where I intended it should go, as is amply proven by the first paragraph on the following page, where I say 'I am by no means convinced that *Volutifusus* should be separated from *Scaphella*,' which it follows on p. 291. I do not pretend to explain or excuse this inadvertence, but desire to put the correction on record. I also note the following errata: In last line of page 289 for 'bi cit.' read 'loc. cit.;' page 279, line 14 from top, for 'larger' read 'longer;' page 305 under *P. elliptica* for 'seven' read 'my;' page 309, line 22 from bottom, for '*Pseudocardia*' read '*Protocardia*.'"

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NOVEMBER 27.

The President, Dr. RUSCHENBERGER, in the chair

Thirty-eight members present.

A paper entitled "On the Alkali from the vicinity of Fort Bridger, Wyoming Territory," by Edw. Goldsmith, was presented for publication.

*Remarks on the American Species of Diffugia.*—Prof LEIDY remarked that the genus *Diffugia* was first described by Leclerc, in 1815, and was founded on three forms, of which one is referred by Ehrenberg to his *D. proteiformis*, and the others to *D. acumi-*

*nata* and *D. spiralis*. Lamarck, without distinction, applied the former name to the whole of them.

In his study of the fresh-water rhizopods of this country, Prof. Leidy had recognized about fourteen kinds of *Diffugia*, which are sufficiently common and characteristic to be worthy of distinctive names. Nevertheless his investigations had led him to believe, with Wallich, that through transitional forms they all merge into one species.

The well-marked varieties observed are as follows:—

1. *DIFFUGIA PROTEIFORMIS*. Ehrenberg.

This name, the oldest and first applied by Lamarck, is used with rather uncertain signification. It was suggested that it should be restricted to the variety having its shell spheroidal, ovoidal, or subpyriform, with circular transverse section and with the mouth circular and not crenulated.

2. *D. PYRIFORMIS*. Perty, Carter, Wallich, Ehrenberg.

3. *D. ACUMINATA*. Ehrenberg.

4. *D. COMPRESSA*. Carter.

5. *D. ENTOCHLORIS*.

Like the latter, but with the fundus of the shell surmounted by from one to three obtuse processes. Sarcode green. Is it *D. mitrata*, Wallich; or *D. triangulata*, Lang.?

6. *D. URCEOLATA*. Carter.

*D. lageniformis*, Wallich; *D. amphora*, Leidy.

7. *D. OLLA*.

Like the latter, but provided with several nipple-like processes to the fundus.

8. *D. CORONA*. Wallich.

9. *D. LOBOSTOMA*.

Mouth 3 to 12 lobed, spineless. *D. tricuspis*, Carter; *D. oblonga*, Fresenius; *D. crenulata*, Leidy.

10. *D. GLOBULARIS*. Wallich.

Exclusive of the varieties.

11. *D. CRATERA*.

Minute, goblet shaped, with ovoid body, and wide cylindrical throat.

12. *D. VAS*.

Resembling *D. pyriformis*, but with the neck narrowly constricted from the body.

13. *D. SPIRALIS*. Ehrenberg, Bailey, Fresenius, etc.

14. *D. MARSUPIIFORMIS*. Wallich.

Including the variety *D. cassis*, Wallich.

In the Trans. Acad. Sciences, Berlin, 1871, Ehrenberg gives a list of upwards of one hundred named species of *Diffugia*, and later he described eight others. The list, however, includes most other related genera, except *Arcella*, so that if all were excluded except those pertaining to *Diffugia* in its restricted sense, the

number of species would be considerably reduced. It is remarkable that the long list includes less than half the species above named, nearly all of which appear to be very common. Further, most of those of our list mentioned in Ehrenberg's list are the least characteristic of the series. None of those named by Ehrenberg are suggestive of the forms called *D. urceolata*, *D. olla*, and *D. corona*. Many of Ehrenberg's forms are badly figured and imperfectly characterized, and his lists appear greatly extended by the same things having been described over and over again under different names.

In Wallich's able papers on fresh-water rhizopods, referring to forms from Bengal, the Himalayas, Greenland, Labrador, Nova Scotia, and England, there are indicated about a dozen species of *Difflugia*, in the restricted sense in which the genus is now viewed, and the present list includes all of these except, at most, two.

*The Aeronautic Flight of Spiders.*—Rev. H. C. McCook remarked that October 25, 1877, was a warm day, with a soft wind from the west; just such an autumn day as would tempt young spiderlings to essay their aerial trips. The point of the following observations was the fields back of the "Presbyterian Home for Widows," in the suburbs of Philadelphia. Stooping low, and glancing along the meadow, the eye caught the sheen of myriads of fine silken filaments glistening in the sunlight. The tops of the grass spires, and the bushy heads of tall weeds were netted together by innumerable threads, and from many points of the same, like filaments were streaming out at various lengths into the air. Numerous small spiders, chiefly orbweavers, the young of *Tetragnatha extensa*, were rising from these plants, and sailing off over the field. But the finest exhibition of the aeronautic flight was seen along the post and rail fence which divides the meadow. The tops of the posts were the favorite spots, and upon all of these clusters of young wolf spiders (*Lycosidæ*) were gathered, sometimes eight or ten in a group. The purpose in choosing these elevated spots is quite apparent, the breeze being much stronger there than close to the surface of the earth, and consequently affording much better facility for flight. The presence of a deliberate and wise volition is all the more evident from the fact that the *Lycosidæ* are ground spiders, and are rarely found in such positions as the above. They had certainly mounted to the top of the fence with the settled purpose of taking advantage of the stronger breeze, and the better "send off" which the superior height afforded. He found that the threads, spread out by spiderlings on the grass stalks, which floated quite lazily, when the stalks were broken off and lifted higher, immediately fluttered off briskly, and soon carried the little arachnid away with them. Fortunately, the posts suited the observer's convenience quite as